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THE ROLE OF THE FOREST PRODUCTS INDUSTRY IN ECONOMIC DEVELOPMENT

By Clark C. HERITAGE,
Consulting Engineer, Ch.E., P.E.,
316 North 11th Street,
Tacoma 3, Washington

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THE ROLE OF THE FOREST PRODUCTS INDUSTRY IN ECONOMIC DEVELOPMENT

by
Clark C. Heritage, Consulting Engineer, Ch.E., P.E.
316 North 11th Street, Tacoma 3, Washington

SUMMARY

1. The occurrence of forest cover of one kind or another is almost universal. The precise species involved is not of major importance. Because of the great variety of possible products, and the wide choice of process steps, almost any species can be put to profitable use.

2. There are some who worry about a possible decline in the use of wood. What they are really thinking about are some contemporary products of wood, not wood itself. Some products decline and others, taking their place, grow. But the commodity, wood, actually is being used in ever increasing volume.

3. A unique feature of the forest products industry is the variety and magnitude of the materials produced. They consist of three major categories: solid wood, fibers and chemicals. The solid wood category includes: sawed lumber of many varieties; millwork; laminated lumber; round piles, poles and posts; plywood and plywood panelling; shingles and shakes; and sub-divided wood, such as wood wool, shavings, flakes, sawdust and wood flour. Fiber products include: paper and paperboard; mats and blankets for packing, padding and insulation; insulation boards and sheathing; and hardboards. Chemical products involve filaments, films, lacquers, textiles, finishes, explosives, soil mulches, and concrete additives.

4. In planning for the establishment of a forest products industry, first consideration should be given to the possible markets for the products, the availability of raw materials, and the requirements of use. If these appear favorable, then consideration should be given to such matters as practical technology, sound economics, capital, right timing, and provisions for renewing the resource.

5. Markets govern the nature of the end product to be produced from the available raw materials. Requirements of use control the characteristics of the product, its performance, and thereby its price level. The technology to be practical must either have been practiced elsewhere or have gone through pilot plant studies successfully. The most often encountered stumbling block to successful commercialization is that of sound economics, and an operating forecast is of extreme importance. Regardless of how attractive the market may be, how practical the technology, or how sound the economics, right timing should not be overlooked. In considering the capital requirements per unit of production, there is a great leeway in the case of forest products to choose the extent to which the classical processes shall be used as compared with the more complicated contemporary techniques.

6. The fact that forests are a renewable resource should be recognized, of course, in planning for a forest products industry, and the whole program should be structured on this important asset. The tree farm concept has brought order to the forest products industry by helping nature replace the trees that are harvested or destroyed, thereby insuring an adequate future supply of lumber. Various measures are used depending upon the species involved. One well established practice is to create large tree nurseries to grow seedlings which are transplanted to replace the trees that have been harvested or destroyed. Another practice is to spread tree

seeds over a denuded area by helicopter. The seeds are first coated, however, with a repellant because otherwise they would be consumed by rodents. The young seedlings that develop from this method, as well as those that have been transplanted from the nursery, are given careful attention, and those that are damaged by ruminants, or by other means, are replaced.

7. If advantage is tc be taken of the unique opportunity wood provides for integrated operation, planning for a forest products industry should provide for complete utilization of the tree farm crop. This means building an industrial complex, starting modestly and proceeding soundly as the integration expands.

8. The manufacturer of lumber and plywood has a unique opportunity to bring raw material integration into being. Certain it is that no cheaper, hardboard, softboard, particleboard, pulp or paper can be made than that provided by integration with the manufacture of lumber and plywood.

9. Some of the commonly practiced integrations are: softwood lumber production with glued-up panels, prefabricated timber members, laminated structural members, veneer, plywood, softboard, hardboard, and particleboard; plywood production with prefabricated panels and structural members, chips, softboard, hardboard, various pulps, paper overlays and hardboard overlays; softboard production with hardboard overlays; hardboard with paper overlays; and particleboard with veneer overlays and paper overlays.

10. Approximate guidelines frequently asked for by those contemplating entering some phase of the forest products industry, usually as part of an integration are: What is the smallest practical manufacturing capacity, and what is the fixed capital investment likely to be?

11. The principal problem is to rationalize the wide differences in prices, costs, climate, availability of services, site quality, product variety, and the extent of finishing operations.

12. There are a number of well-known factors which put a ceiling on plant size. There are also others which are used to determine the minimum size, e.g., large enough to provide sound economics, large enough to permit integration, and large enough to work a key piece of equipment at maximum performance.

13. Table 1 provides information concerning minimum plant capacities for a number of forest products and the basic fixed investment dollars per short ton that are involved. For example, a plant producing structural plywood equipped with one hot press, and operating two shifts per day for 240 days a year, would have a minimum daily production capacity of 220,000 square feet (3/8" - 30 lbs. per cubic foot), or 100 short tons, and the basic fixed investment dollars per daily short ton would be approximately $30,000. A plant producing particleboard with one single-opening press (8' x 16) operating three daily shifts for 240 days a year, could produce 45,000 square feet or 50 short tons daily with a fixed investment of $20,000 per daily short ton.

14. The figures quoted in the table should only be used for initial project orientation and should not be used to arrive at firm and final decisions without adequate confirmation. Also, all of the figures apply to the North American conifers.

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